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| 10/673,997      | 09/29/2003  | Edward Harris Tegge JR. | GCSD-1481 (51343)   | 2808             |

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EXAMINER

SINGH, DALZID E

ART UNIT PAPER NUMBER

2613

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Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/673,997 | <b>Applicant(s)</b><br>TEGGE ET AL. |  |
|                              | <b>Examiner</b><br>Dalzid Singh      | <b>Art Unit</b><br>2613             |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 29 September 2003.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-41 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-3,5-11,13-20,22-29,31-38,40 and 41 is/are rejected.

7) ☒ Claim(s) 4,12,21,30 and 39 is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All    b) ☐ Some \* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

|   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-11, 13-20, 22-29, 31-38, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold et al (US Patent No. 6,347,001) in view of Willebrand (US Pub. No. 2002/0149811).

Regarding claims 1 and 36, Arnold et al discloses a modular free space optical (FSO) communications device, as shown in Fig. 6, comprising:

an optical relay (OR) module (304) comprising an OR housing and at least one OR device carried thereby);

a base module (302) comprising a base housing and at least one positioner carried thereby for providing relative movement between said base module and said OR module for optical beam aiming (see col. 5, lines 57-67 to col. 6, lines 1-31);

a camera (see col. 6, lines 39-41); and

controller connected to at least one positioner for permitting remote optical beam aiming, and said camera for permitting remote viewing (see col. 5, lines 57-67, col. 6, lines 1-31, col. 7, lines 16-29).

Arnold et al disclose free space optical communication and differ from the claimed invention in that Arnold et al do not disclose that the a remote station interface connected to said at least one positioner for permitting remote optical beam aiming, said remote station also connected to said camera for permitting remote viewing. Willebrand teaches the use of remote station for management of free space optical network (see paragraph [0044]). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide network management of Willebrand with corresponding interface to the free space optical communication of Arnold et al for controlling beam aiming and permitting remote viewing. One of ordinary skill in the art would have been motivated to do such in order to provide accessibility of the communication system from anywhere in the world.

Regarding claims 2, 10, 19, 28 and 37, wherein said remote station interface comprises an optical fiber interface (see paragraph [0045] of Willebrand, the communication network comprise optical link).

Regarding claims 3, 11, 20, 29 and 38, wherein said remote station interface comprises an Internet remote station interface (see paragraph [0045] of Willebrand).

Regarding claims 5, 13, 22 and 31, wherein said base module further comprises a controller connected between said remote station interface and said at least one positioner (see col. 5, lines 57-67, col. 6, lines 1-31, col. 7, lines 16-29).

Regarding claims 6, 14, 23, 32 and 40, wherein said at least one OR device comprises a fixed telescopic lens device (see Fig. 5).

Regarding claims 7, 15, 24 and 33, wherein said OR housing has an aperture therein (see Fig. 4); and further comprising a steering mirror (502) in the optical path between the aperture and said fixed telescopic lens device (505).

Regarding claims 8, 16, 25, 34 and 41, the modular FSO communications device of claim 1 further comprising an adaptive optics module connected between said base module and said OR module (the optical device of Fig. 5 is adaptive).

Regarding claim 9, Arnold et al discloses a modular free space optical (FSO) communications device, as shown in Fig. 6, comprising:

- an optical relay (OR) module (304) comprising an OR housing and at least one OR device carried thereby);

- a base module (302) comprising a base housing and at least one positioner carried thereby for providing relative movement between said base module and said OR module for optical beam aiming (see col. 5, lines 57-67 to col. 6, lines 1-31);

- a camera (see col. 6, lines 39-41); and

- controller connected to at least one positioner for permitting remote optical beam aiming, and said camera for permitting remote viewing (see col. 5, lines 57-67, col. 6, lines 1-31, col. 7, lines 16-29).

Arnold et al disclose free space optical communication and differ from the claimed invention in that Arnold et al do not disclose that the a remote station interface connected to said camera for permitting remote viewing. Willebrand teaches the use of remote station for management of free space optical network (see paragraph [0044]).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide network management of Willebrand with corresponding interface to the free space optical communication of Arnold et al for permitting remote viewing. One of ordinary skill in the art would have been motivated to do such in order to provide accessibility of the communication system from anywhere in the world.

Regarding claim 17, Arnold et al discloses a modular free space optical (FSO) communications device, as shown in Fig. 6, comprising:

first and second modular FSO communications devices aligned for optical communication therebetween (it would have been obvious that there exist first and second modular FSO such as shown in Fig. 2), each comprising:

an optical relay (OR) module (304) comprising an OR housing and at least one OR device carried thereby);

a base module (302) comprising a base housing and at least one positioner carried thereby for providing relative movement between said base module and said OR module for optical beam aiming (see col. 5, lines 57-67 to col. 6, lines 1-31);

a camera (see col. 6, lines 39-41); and

controller connected to at least one positioner for permitting remote optical beam aiming, and said camera for permitting remote viewing (see col. 5, lines 57-67, col. 6, lines 1-31, col. 7, lines 16-29).

Arnold et al disclose free space optical communication and differ from the claimed invention in that Arnold et al do not disclose that the a remote station interface connected to said at least one positioner for permitting remote optical beam aiming, said remote station also connected to said camera for permitting remote viewing. Willebrand teaches the use of remote station for management of free space optical network (see paragraph [0044]). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide network management of Willebrand with corresponding interface to the free space optical communication of Arnold et al for controlling beam aiming and permitting remote viewing. One of ordinary skill in the art would have been motivated to do such in order to provide accessibility of the communication system from anywhere in the world.

Regarding claims 18 and 27, Arnold et al disclose free space optical communication and differ from the claimed invention in that Arnold et al do not disclose a remote terminal connected to said remote station interfaces of said first and second modular FSO devices. Willebrand teaches the use of remote station for management of free space optical networks (see paragraph [0044]). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide remote station interface of the first and second modular FSO in order to control each modular FSO.

Regarding claim 27, Arnold et al discloses a modular free space optical (FSO) communications device, as shown in Fig. 6, comprising:

first and second modular FSO communications devices aligned for optical communication therebetween (it would have been obvious that there exist first and second modular FSO such as shown in Fig. 2), each comprising:

an optical relay (OR) module (304) comprising an OR housing and at least one OR device carried thereby);

a base module (302) comprising a base housing and at least one positioner carried thereby for providing relative movement between said base module and said OR module for optical beam aiming (see col. 5, lines 57-67 to col. 6, lines 1-31);

a camera (see col. 6, lines 39-41); and

controller connected to at least one positioner for permitting remote optical beam aiming, and said camera for permitting remote viewing (see col. 5, lines 57-67, col. 6, lines 1-31, col. 7, lines 16-29).

Arnold et al disclose free space optical communication and differ from the claimed invention in that Arnold et al do not disclose that the a remote station interface connected to said camera for permitting remote viewing. Willebrand teaches the use of remote station for management of free space optical network (see paragraph [0044]). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide network management of Willebrand with corresponding interface to the free space optical communication of Arnold et al for permitting remote viewing. One of ordinary skill in the art would have been motivated



to do such in order to provide accessibility of the communication system from anywhere in the world.

Regarding claim 36, Arnold et al disclose free space optical communication and differ from the claimed invention in that Arnold et al do not disclose that the a remote station interface connected to said at least one positioner for permitting remote optical beam aiming. Willebrand teaches the use of remote station for management of free space optical network (see paragraph [0044]). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide network management of Willebrand with corresponding interface to the free space optical communication of Arnold et al for controlling beam aiming. One of ordinary skill in the art would have been motivated to do such in order to provide accessibility of the communication system from anywhere in the world.

***Allowable Subject Matter***

3. Claims 4, 12, 30 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Korevaar (US Patent No. 6,498,668) is cited to show alignment system for laser communication beam.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS  
09/14/06  
Dalzid Singh